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BEFORE THE ARIZONA CORPORATION COMMISSION

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ARIZONA CORPORATION COMMISSION
DOCKET CONTROL

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[Signature]

IN THE MATTER OF THE APPLICATION OF
UNS GAS, INC. FOR APPROVAL OF A
PROPOSED DEMAND-SIDE MANAGEMENT
PORTFOLIO FOR 2008-2012.

DOCKET NO. G-04204A-07-0274

**APPLICATION FOR APPROVAL
OF PROPOSED RESIDENTIAL
ENERGY ASSESSMENT
PROGRAM**

**(EXPEDITED TREATMENT
REQUESTED)**

UNS Gas, Inc. ("UNS Gas" or "Company"), through undersigned counsel, hereby requests that the Arizona Corporation Commission ("Commission") approve the proposed Residential Energy Assessment Program ("REAP" or "Program"), attached as Exhibit 1. The Company requests that review and approval of this Program coincide with Commission Staff's review of the Company's previously filed Existing Homes Program. The Company further requests expedited review so that the REAP can be implemented in January 2011.

The REAP is designed to help homeowners improve the efficiency of their homes. The Program includes: (1) residential energy audits to determine inefficiencies; (2) reporting and explanation of the audit to the homeowner; (3) recommended energy efficiency upgrades prioritized by cost effectiveness; and (4) a list of available UNS Gas programs that may offset the cost of the recommended improvements. As additional incentive for participating in the audit, each home will receive up to ten compact fluorescent bulbs and one Advanced Power Strip, in addition to efficiency tips and education.

The REAP will be used in conjunction with UNS Gas' Existing Homes Program. As part of the energy audit, customers will be provided information on rebates and Building Performance

1 Institute - qualified contractors certified to make efficiency upgrades. The REAP will also inform
2 customers of applicable time of use or other conservation oriented rates.

3 UNS Gas anticipates providing \$350 of the \$450 assessment cost in addition to the bulbs
4 and power strip. Customers will pay only a \$99 assessment fee as well as the costs of any
5 upgrades minus applicable rebates.

6 UNS Gas looks forward to implementing this Program because no structured, on-site
7 residential energy assessment is current offered to customers in UNS Gas' service territory.

8 UNS Gas is not requesting a change to its DSM charge related to the REAP at this time.
9 UNS Gas intends to include the REAP costs in its upcoming annual DSM charge adjustment.
10 UNS Gas estimates that the REAP will result in a \$0.001955 per kWh increase to the DSM
11 charge, which would be an increase in the average residential bill of \$1.02 per year.

12 Based on the foregoing, UNS Gas respectfully requests expedited review and approval of
13 the REAP, coinciding with review and approval of the Existing Homes Program. UNS Gas would
14 like to implement both programs in January of 2011.

15 RESPECTFULLY SUBMITTED this 8th day of September 2010.

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Original and 13 copies of the foregoing
filed this 8th day of September 2010 with:

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Copy of the foregoing hand-delivered/mailed
this 8th day of September 2010 to:

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By Mary Appolits

Exhibit 1

UNS Gas, Inc. Residential Energy Assessment Program

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Program Concept and Description

The Residential Energy Assessment Program ("REAP" or the "Program") is an energy efficiency program designed to help homeowners improve the efficiency of their homes. The Program includes: (1) residential energy audits to determine inefficiencies; (2) reporting and explanation of the audit to the homeowner; (3) recommended energy efficiency upgrades prioritized by cost effectiveness; and (4) a list of available UNS Gas, Inc. ("UNS Gas") programs that may offset the cost of the recommended improvements.

The energy audit will be conducted and explained by an efficiency expert.¹ The holistic energy analysis approach that will be used will identify unseen inefficiencies as well as issues related to comfort, health and safety. At the conclusion of the home assessment, the contractor will provide a detailed report of efficiency measures prioritized by cost effectiveness.² The report will also contain an estimate of the actual energy and dollar savings possible through the recommended upgrades. At this time, the recommended measures will be limited to duct sealing, air sealing, ceiling insulation, and high efficiency HVAC equipment replacement.³

In addition to providing and explaining the assessment report, the contractor will install one cost-effective low-flow showerhead, one kitchen faucet aerator, and up to two bathroom faucet aerators per home audit. The contractor will educate the homeowner about applicable UNS Gas rebates and simple behavioral modifications to increase efficiency. Educational materials will be provided to the homeowner, including information about available rate plans that promote conservation.

The REAP is designed to be utilized with UNS Gas's Existing Homes Program. Thus, as part of the energy audit, customers will be provided with rebate information and Building Performance Institute ("BPI") qualified contractors who are certified to make energy efficiency upgrades. Once a customer contacts an approved contractor, a firm cost for recommended repairs will be given to the customer. The contractor will then be able to access a secure website containing details of the customer's energy assessment. Upon completion of all work, the actual savings provided by each measure will be known.

Target Market

The target market for this Program is single family homeowners. Detached homes, townhomes, and other residential buildings of up to four units also will be invited to participate in the Program. Residential customers considering installation of renewable resources will be informed of the Program to encourage maximizing efficiency prior to installing other resources.

¹ UNS Gas issued a request for proposals ("RFP") on August 5, 2010, to select an implementation contractor capable of supplying trained energy auditors to conduct the on-site energy assessments. UNS Gas expects the contractor will use the Real Home Analyzer or second version E-net Green software to conduct the audits. UNS Gas will implement the energy assessments in-house, or through the Existing Homes Program Implementation Contractor if an acceptable bid is not received.

² The assessment report will only recommend improvements that are cost effective using the Societal Cost Test methodology required by the Arizona Corporation Commission.

³ Additional measures may be included in the future if the incremental cost of additional measures is reduced to allow new measures to screen the cost-effectiveness test.

Current Baseline Conditions

There are currently no structured, on-site, residential energy assessment programs offered to customers in the UNS Gas service territory. Additionally, the status of the professional building science oriented trade ally infrastructure is still in early stages, as few contractors are currently certified by the BPI.

Program Eligibility

Program Eligibility is limited to residential customers in existing 1-4 family, owner-occupied homes currently serviced by UNS Gas.

Program Objective and Rationale

The REAP's objective is to facilitate consumers understanding of the value and advantages of an energy efficient home. UNS Gas' first year goal (for 2011) is 400 energy audits completed. Through the REAP, UNS Gas also seeks to overcome the current market barriers to increasing energy efficiency, as shown in Table 1.

Table 1. Market Barriers and Program Elements

Market Barrier	Program Element
<ul style="list-style-type: none"> Lack of information regarding energy use, appropriate efficiency upgrades, and cost effectiveness 	<ul style="list-style-type: none"> Comprehensive energy assessment and explanation of results to customer Real Home Analyzer or second version E-net Green software generated energy savings and prioritized recommendations
<ul style="list-style-type: none"> Lack of knowledge regarding costs Inability to overcome upfront costs of upgrades 	<ul style="list-style-type: none"> Explanation of lifecycle cost vs. first cost Explanation of incentives available through the Existing Homes Program Explanation of available financing options⁴
<ul style="list-style-type: none"> Shortage of qualified contractors capable of performing efficiency upgrades Customer difficulty locating qualified contractors 	<ul style="list-style-type: none"> Training, mentoring ,and certification for auditors and contractors⁵ List of qualified contractors that meet Program standards

⁴ UNS Gas filed an Energy Efficiency Financing Program with the Arizona Corporation Commission on July 30, 2010, which, upon approval, will provide financing options for efficiency upgrades.

⁵ This market barrier is specifically being addressed in UNS Gas's Existing Homes Program.

Administration and Delivery Strategy

UNS Gas will serve as the program administrator for the REAP, providing marketing, planning, technical support, and evaluation. UNS Gas expects to use an implementation contractor to conduct the energy assessments, to deliver and explain the resulting reports to the homeowner, and to complete all remaining customer education/assistance.⁶ UNS Gas may take on the proposed duties of the implementation contractor in the event that no acceptable bids are received as part of the RFP issued on August 5, 2010.

Inquiring consumers will receive Program and contact information to schedule an energy assessment. The implementation contractor will be responsible for determining eligibility. After the assessment is conducted, the auditor will refer the customer to a UNS Gas approved and certified BPI contractor. The BPI contractor will be responsible for conducting combustion safety testing, installation of recommended measures, and blower-door/duct testing at the completion of the efficiency upgrades. They will also be responsible for updating the energy assessment records with final test results and reporting.

The features of the home energy audit are as follows:

- assessment cost of \$99 per home as opposed to the current market cost of approximately \$450 – UNS Gas proposes to pay the balance up to \$350;
- blower door⁷ and a duct blaster⁸ tests;
- assessment report recommending efficiency upgrades prioritized by cost effectiveness;
- list of approved BPI contractors available to complete the recommended measures;
- promotion of the thermal envelope measures included in the Existing Homes Program, including duct sealing, air sealing, ceiling insulation, storage water heater, and high efficiency HVAC equipment replacement;
- installation of one low-flow showerhead, one kitchen faucet aerator, and up to two bathroom faucet aerators; and
- education regarding behavioral changes, other UNS Gas efficiency programs, rate options, and contact information to assist with after assessment questions.

Where UNS Gas and UNS Electric have overlapping services territories, the companies will jointly offer the program requiring only one assessment.

Incentive Design and Administration

The incentives for this Program include: (1) the significantly subsidized assessment costs; and (2) installation of one low-flow showerhead, one kitchen faucet aerator, and up to two bathroom faucet aerators. UNS Gas intends for consumers to pay the \$99 assessment cost directly to the auditor. UNS Gas will pay the remaining amount, up to \$350, directly to the

⁶ Including scheduling customer assessments, screening applicants, referring certified contractors, installation of direct-install components, data storage, and reporting; the contractor will also participate in Program promotions and marketing.

⁷ A blower door test is a diagnostic test to determine the air tightness of the home.

⁸ A duct blaster test is a diagnostic test to measure leakage in the home's duct system.

UNS Gas, Inc. Energy Assessment Program

implementation contractor. UNS Gas anticipates monthly invoicing on behalf of the contractor, and will provide payment within 30 days of completion of the home assessment. Payment to the contractor is contingent upon the contractor providing UNS Gas with all project documentation; all applications for payment will be thoroughly reviewed for completeness, accuracy, and consistency of data.

Marketing and Communications

The marketing and communications strategy for the REAP is consistent with the broader Existing Homes Program, which includes:

- promotions on UNS Gas's website;
 - advertising in major newspapers and other print media in the service region;
 - brochures and other collateral pieces such as bill inserts;
 - high bill inquiries;
 - trade ally marketing efforts; and
 - contractor enrollment and training.
-

Program Implementation Schedule

Assuming Arizona Corporation Commission ("Commission") approval by the end of October 2010, UNS Gas anticipates Program implementation on or about January 1, 2011. UNS Gas's goal for the first year of the Program is 500 audits by the end of 2011.

Monitoring and Evaluation Plan

UNS Gas's Measurement, Evaluation, and Research contractor, Navigant Consulting, will be conducting Program measurement, verification, and quality assurance. UNS Gas also anticipates mailing homeowner surveys to all Program participants who receive an audit.

UNS Gas, Inc. Energy Assessment Program

Program Costs

The 2011 budget by Program measure is based on an estimated 500 home assessments, and is provided in Table 2.

Table 2. 2011 Budget

UNS Gas Energy Assessment Program (2011)			
Incentives per Measure	Maximum Incentive / Measure	Units	Total
Low Flow Showerhead - Direct Install	\$42.45	500	\$21,225
Kitchen and Bathroom Faucet Aerators - Direct Install	\$22.79	500	\$11,395
Energy Assessment Subsidized Service (\$350 value) paid to Contractors Conducting the Energy Assessment	\$350	500	\$175,000
Total Financial Incentives			\$207,620
Program Delivery - Energy Assessment			
Program Delivery			\$13,000
Energy Audit Software Set-Up Fee			\$19,139
Energy Assessment License Fee (Est. \$20/audit)	\$20	500	\$10,000
Total Program Delivery			\$42,139
Program Marketing			
			\$12,488
Program Administration			
			\$13,000
Measurement, Evaluation and Research			
			\$5,505
Total Program Costs - Incentive			\$207,620
Total Program Costs - Non-Incentive			\$73,132
TOTAL PROGRAM COSTS			\$280,752
Incentives as % of Total Budget			
			74%

Estimated Energy Savings

The Program's estimated energy savings by Program element are provided in Table 3 and Table 4 provides estimated energy savings per home for the entire energy assessment Program. Due to this Program's utilization of benefits associated with the Existing Homes Program, the particular

UNS Gas, Inc. Energy Assessment Program

mix of energy efficiency measures will differ for each home. The estimated energy savings for all efficiency measures in the Existing Homes Program are included in the Existing Homes filing. Even if customers do not make upgrades incented through the Existing Homes Program, the energy assessment will estimate all savings from all modifications to the home. UNS Gas will use a before and after energy assessment to determine actual energy savings resulting from customer participation.

Table 3. Estimated Energy Savings per Home for 2011

Installed Measure	Gross Annual Savings (in Therms)	Units per Audit
Low Flow Showerhead	31	1
Kitchen Aerator	22	1
Bathroom Aerators	24	2
TOTAL	76	4

Table 4. Program Expenditures and Forecasted Energy Savings for 2011

Participation inflation rate	0
Admin Inflation Rate	0
Total Budget	\$280,752
Incentives	\$207,620
Admin/Implementation Costs	\$73,132
Incentives as % of Budget	74%
Implementation to Incentives	35%
Projected Participation	500
Energy Savings (Therms)	38,050

Program Cost Effectiveness

The cost effectiveness of the Program as a whole was assessed using the Societal Cost Test, as recognized by the Commission. Table 5 provides a summary of the benefit-cost analysis results for direct-install measures in this Program.

Table 5. Benefit-Cost Analysis Results

Direct Install Measure	Societal Benefit – Cost Ratio
Showerhead	4.6
Kitchen Aerator	18.2
Bathroom Aerator	9.8
Program Level	1.0

UNS Gas, Inc. Energy Assessment Program

In addition to estimating the savings from each measure, this analysis relies on a range of other assumptions and financial data provided in Table 6.

Table 6. Other Financial Assumptions

Other Financial Assumptions	
Measure Life Showerhead and Aerator (yrs)	10 and 10
Program Life (yrs)	5
Non-Incentive Costs/unit	\$146
TRC Discount Rate	8.75%
Social Discount Rate	4.00%
NTG Ratio	100%

UNS Gas, Inc. Energy Assessment Program

Residential Existing Homes Program - Audit Component

PROGRAM DATA				RATE DATA		OPERATING DATA			OTHER FACTORS							
Showerhead Measure Life (yrs):	10			Rate	1.29	Hourly Load Factor - Shower:	3%	Application	Cost Basis:	Rebate	Full Install					
Aerator Measure Life (yrs):	10			\$/Therm		Hourly Load Factor - Sink:	5%									
Program Life (yrs):	5					In-Service Rate:	100%									
Gas Energy AC (\$/therm):	0.78															
Administration Costs (\$/unit):	NA															
Discount Rate:	8.75%															
Societal Discount Rate:	4.00%															
Cost of Audit per home:	\$350															
Additional Incremental Cost per Audit:	\$34															
NTG Ratio:	100%															
DEMAND/ENERGY SAVINGS				INCENTIVE CALCULATIONS				CUSTOMER COST/SAVINGS				Societal				
Feature Type	Base Flow Rate (GPM)	EE Flow Rate (GPM)	Gas Energy Savings (Therms)	IRP Benefit (\$)	PV Benefit (\$)	Societal Benefit (\$)	Recommended Incentive** (\$)	% PV	NPV Cost*** (\$)	Inc. Cost Savings wo/Inc. (yr) (\$)	Payback w/Inc. (yr) (\$)		Weighting Factor" (%)			
Low Flow Shower Head																
	4	2	28.7	145	182	42	100%	42	103	42	37	1.1	0.0	70%	100%	4.3
	4	1.5	35.8	182	227	42	100%	42	138	42	46	0.9	0.0	30%	100%	5.3
Weighted Average	4	1.85	30.8	155	195	42	100%	42	114	42	40	1.1	0.0	100%		4.8
Faucet Aerators																
Kitchen Aerators	2.2	1.5	14.6	74	92	8	100%	8	66	8	19	0.4	0.0	50%	100%	12.2
	2.2	1	25.0	127	158	8	100%	8	119	8	32	0.2	0.0	30%	100%	20.8
	2.2	0.5	35.4	179	224	8	100%	8	172	8	46	0.2	0.0	20%	100%	29.5
Weighted Average	2.2	1.15	21.8	111	138	8	100%	8	103	8	28	0.3	0.0	100%		18.2
Bathroom Aerators (2)																
	2.2	1.5	15.7	80	99	15	100%	15	64	15	20	0.8	26.9	50%	100%	6.5
	2.2	1	26.9	136	170	15	100%	15	121	15	35	0.4	0.0	30%	100%	11.2
	2.2	0.5	38.1	193	241	15	100%	15	178	15	49	0.3	0.0	20%	100%	15.9
Weighted Average	2	1.2	22.5	119	145	15	100%	15	104	15	30	0.6	13.5	100%		9.8
Total			76	385	483	415	100%	99	321	99	58	1.0	97.5	100%		4.9

Notes/Assumptions:

(1) Baseline showerheads are assumed to be 4 GPM. Source is "Potential Water and Energy Savings from Showerheads" 2006, Biemeyer, P. pg 7.

(2) Savings for auto shut off valve are sourced from evolve.showerheads.com. Assumes 2700 gallons of hot water wasted for a 2.5 gpm showerhead during warm up, equivalent to 1 minute of wasted hot water.

(3) Consumption assumes a 3 person single family dwelling with 1 shower head

(4) See "Energy Assumptions" tab for monthly savings derivations.

(5) Demand savings are calculated by equally distributing energy savings to a daily basis and then applying the hourly load fraction sourced from the "Building America Research Benchmark Definition." This implies coincidence as well as diversity.

(6) Estimated water usage is sourced from "Residential End Uses of Water" published by American Water Works Association, 1999, which estimates the gallons per capita per day.

(7) Gas storage water heater efficiencies are sourced from <http://www.aces.org/consumerguide/waterheating.htm> and reflect the "minimum" efficiency for electric and the "conventional" efficiency for gas.

(8) Rates for Gas are based on Southwest Gas rates for a Single Family Residence incorporating delivery, rate adjustment, monthly gas cost effective June 1, 2008.

(9) In-Service Rate accounts for residences that remove low flow showerheads in favor of old showerhead.

(10) Costs include material and labor costs. See "Cost Assumptions" tab for other information.

(11) Assumes: 2 bathroom aerator and 1 kitchen aerator for each 3 person single family dwelling.

(12) Savings from faucet aerators are assumed for bathroom and kitchen use.

(13) Baseline faucet aerators are assumed to be 2.2 gpm, labeled as a "traditional" faucet per www.epa.gov/watersense/pubs/faucet_bq.htm

(14) Split among kitchen and bathroom faucets based on <http://www.extension.umn.edu/distribution/hotwatersources/components/DD5946.html>, which states 8 gal pd in bathroom 16 gallons per day in kitchen.

This translates to 65% of faucet water usage being from kitchen sinks and 35% being from bathroom sinks.

* The ratios are our best engineering assumptions, pending detailed MER work.

** The design of the program is such that direct metal measures and the cost of the audit are considered incentives

*** "Total" row calculates incremental cost of the whole audit while the other values in this column are incremental costs of each individual measure derived from total incremental cost of audit. This division of incremental cost is on the basis of measure savings

Notes/Assumptions:

- (1) Baseline showerheads are assumed to be 4 GPM. Source is "Potential Water and Energy Savings from Showerheads" 2006, Biermayer, P. pg 7.
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This translates to 65% of faucet water usage being from kitchen sinks and 35% being from bathroom sinks.
 * The ratios are our best engineering assumptions, pending detailed MER work.
 ** The design of the program is such that direct initial measures and the cost of the audit are considered incentives.
 *** "Total" row calculates incremental cost of the whole audit while the other values in this column are incremental costs of each individual measure derived from total incremental cost of audit. This division of incremental cost is on the basis of measure savings.